

4 July 2017



Mr John Pierce  
Chairman  
Australian Energy Market Commission  
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Dear Mr Pierce

***Re: Consultation on Distribution Market Model Draft Report***

Ausgrid is pleased to provide this submission to the AEMC in relation to its draft report on the Distribution Market Model.

Ausgrid encourages the forward-thinking and strategic approach taken by the AEMC in exploring current energy market arrangements, and whether they are flexible and resilient enough to respond to changes in technology, in particular increased uptake of distributed energy resources (DER).

We have identified a number of key issues arising from the draft report, specific to the Ausgrid network, which are discussed in the attachment. The attachment also responds to each of the questions posed by the AEMC. We look forward to the opportunity to provide further input as the issues are defined in more detail, and specific options are developed.

In summary, Ausgrid is supportive of the need to optimise and co-ordinate the investment in, and operation of, DER in order to enable customers to access a range of smarter and cheaper services, expanding their choices about how they manage their energy needs, whilst also potentially delivering a source of value and revenue. Nonetheless, we remain cognisant of the need for DNSPs to continue to be an integral part of the market model, providing a safe, reliable and secure electricity supply to all customers, regardless of their ability to access such technology. We are also conscious of the need to consider optimisation of the entire National Electricity Market, not just from the perspective of DER investment. Any changes to the energy market must still allow for certainty in investment for DNSPs, in order to ensure that the needs of the National Electricity Objective remain satisfied.

In contrast to the general commentary contained in the draft report, Ausgrid has a long history (>50 years) of experience with non-passive controlled load devices on our network. The technical impacts of these devices are well understood, and they are well integrated into the planning and operation of our network, and subsequently our tariff design, providing significant incentives to our customers.

We would also like to note that the day-to-day operation and orchestration of a distribution network is complex and dynamic (including bidirectional energy flows), requiring high levels of technical skills and experience to ensure that the needs of customers are met whilst maintaining safety, security and reliability of supply. Ausgrid looks forward to participating in the development of the Distribution Market Model to ensure that the role of DNSP is appropriately recognised and designed.

If you have any queries or wish to discuss this matter in further detail please contact Murray Chandler, Head of Asset Management Strategy, Performance & Innovation on (02) 9269 7210 or via email [murray.chandler@ausgrid.com.au](mailto:murray.chandler@ausgrid.com.au).

Yours sincerely

A handwritten signature in black ink, appearing to read "Richard Gross", written over a white background.

**RICHARD GROSS**  
Chief Executive Officer

## Attachment A – Summary of Ausgrid’s Submission on Consultation Paper

Discussion Point	Response
The increasing uptake of DER	<p>Ausgrid is supportive of the research that forecasts significant increases in distributed energy resources and agrees with the drivers behind this that are outlined in the AEMC’s draft report. However, we would like ensure that the AEMC recognises that these forecasts will be neither common nor consistent across different distribution areas, as well as different types of customers. Some of the distinct factors relevant to Ausgrid’s distribution area that will impact the speed and penetration of uptake include:</p> <ul style="list-style-type: none"> <li>○ Around one third of residential dwellings in Ausgrid’s network area are apartments. Typically, these customers have limited access to distributed energy resources, including more traditional options such as hot water load control, generally due to space constraints.</li> <li>○ Around one third of residential dwellings in Ausgrid’s network area are rented. These customers also typically have more limited access to DER.</li> </ul>
The design of distribution networks to deal with DER	<p>The Distribution Market Model draft report outlines a number of technical impacts of DER on distribution networks. Although Ausgrid recognises that the technical limitations can occur, Ausgrid has not experienced these detrimental impacts to any material degree, despite high penetration in some areas. The Ausgrid network was not designed with newer types of DER in mind, however it is sufficiently robust that we now allow automatic approval of any solar connections <math>\leq 30\text{kW}</math>.</p> <p>In contrast to the general commentary contained in the draft report, Ausgrid has a long history of experience with non-passive controlled load devices on our network. We have had a controlled load system in place for over 50 years, which currently services approximately 500,000 customers. This system is well integrated into the operation of the Ausgrid network, and allows approximately 300MW of winter load and 100MW of summer load to be shifted from system peak periods. The use of this system is built into network tariffs, and the benefits, limitations and impacts are well understood by customers.</p> <p>The report notes that limitations currently placed on the installation and operation of DER are due to either a lack of understanding of the potential technical impacts, and/or a lack of confidence in the firmness of any response as a viable alternative to network investment. Ausgrid disagrees with this judgement on both fronts. Any limitations (though few) placed on DER installations are there because</p>

	<p>Ausgrid deeply understands the technical characteristics of the lower levels of our network, which varies considerably across our distribution area. These limitations are in place to ensure that our obligations as a DNSP continue to be met. In contrast to other DNSPs, Ausgrid's current network investment profile is almost exclusively consists of the risk based replacement of aged and poor condition assets. This means that there are limited opportunities for a network need to be solved purely through a DER based solution, rather than a lack of confidence in the responses of DER. It is unlikely in the near term that Ausgrid's expenditure profile will vary markedly from what it is today, particularly with forecast increases in both the uptake of DER and the efficiency of other household appliances.</p>
<p>The role of co-ordination and optimisation</p>	<p>Ausgrid is supportive of the need to optimise and co-ordinate the investment in, and operation of, DER in order to enable customers to access a range of smarter and cheaper services, expanding their choices about how they manage their energy needs, whilst also potentially delivering a source of value and revenue.</p> <p>Nonetheless, we remain cognisant of the need for DNSPs to continue providing a safe, reliable and secure electricity supply to all customers, regardless of their ability to access such technology. We are also conscious of the need to consider optimisation of the entire National Electricity Market, not just from the perspective of DER investment. Any changes to the energy market must still allow for certainty in investment for DNSPs, in order to ensure that the needs of the National Electricity Objective remain satisfied.</p> <p>The current ways in which a DNSPs investments are assessed by the AER does not necessarily promote the use of DER response services, nor is there a large enough market to ensure that the procurement of any response service is robust enough to meet the long term interests of the whole customer base. Changes will need to be made to ways by which DNSPs expenditure is assessed to ensure that we are appropriately incentivised to participate in what is an emerging and very immature market.</p> <p>Ausgrid is unclear how an independent optimising function would operate alongside a distribution network. The complex and dynamic day-to-day operation and orchestration of a distribution network requires high levels of technical skills and experience to ensure that network safety, reliability and security of supply are met. For Ausgrid in particular, this also includes significant joint planning processes with the transmission network, as well as constant interaction with large and complex customers. This means that any response services would need to accommodate the need of DNSPs to, for example, undertake maintenance on its network, in conjunction with any potential service that it intended to be provided upstream of the distribution network (e.g. frequency response services on the transmission network).</p> <p>Ausgrid is of the belief that DNSPs are so integral to the operation of distribution networks, and their interaction with other parts of the market, that it would produce inefficient outcomes to introduce yet</p>

	<p>another party, potentially one that could be at a 1:1 ratio to each distribution network.</p>
<p><b>Question 1</b> Do stakeholders consider that there are any other barriers to the development and implementation of cost-reflective network tariffs? How material are these barriers? Are there other means for them to be addressed?</p>	<p>Ausgrid supports the development and implementation of more cost reflective network tariffs, as evident from the progress that we have made in reforming our network tariffs over the past two decades with currently over 400,000 residential and small business customers on a network Time of Use tariff.</p> <p>Ausgrid notes that the AEMC's thinking on the challenges of network tariff reform has been shaped largely by the need to structure peak charging parameters to reflect the location and temporal aspects of the economic cost function. While reforming the peak usage charges is an important long-term goal, it is important that the AEMC does not lose sight of the even more pressing need to reform tariffs to improve the efficiency of the residual cost recovery – noting that these costs account for the majority of a DNSP cost to serve.</p> <p>Ausgrid agrees with the AEMC that the implementation of cost reflective pricing, namely efficient peak price signals and the recovery of residual costs in a least distortionary manner, will create the essential foundation for future tariff reforms, including more advanced pricing options such as tariffs or charging parameters that better signal the costs and value of exporting electricity to the network. Ausgrid notes that the only barrier to these reforms is Clause 6.1.4 (a) of the National Electricity Rules that prohibit DUOS charges being applied for the export of electricity generated by the user into the electricity distribution network. Ausgrid believes that there is merit in removing this barrier as long as the tariff reform process can be relied upon to ensure that these customers efficiently contribute to the recovery of residual costs and receive marginal price signals reflective of the economic benefits of their exports.</p>
<p><b>Question 2</b> Do stakeholders consider that there are any 'missing markets' or 'missing prices' beyond those that will be implemented through cost-reflective network tariffs? If so, what are these?</p>	<p>Ausgrid considers that the use of increased embedded generation is likely to decrease network losses (paid for by Retailers) at times.</p> <p>The inclusion of additional markets can add complexity and cost that may outweigh the benefit of those additional markets.</p>
<p><b>Question 3</b> Do stakeholders consider that an open access regime will continue to be appropriate in an environment of increasing uptake of distributed energy resources and more constraints on distribution networks? If not, what principles or considerations should be taken into</p>	<p>The Ausgrid network is relatively unconstrained and we presently operate an open access in relation to connection of embedded generation resources.</p> <p>Ausgrid has undertaken some research on methods to mitigate network constraints caused by increasing the uptake of DER. We believe that where areas of the distribution network are constrained, a range of technical methods could be employed by the DNSP at low cost to accommodate further embedded generation. Where these methods are ultimately exhausted, Ausgrid would consider how</p>

<p>account in determining whether a different access regime is more appropriate?</p>	<p>best to promote efficient investment to meet the national electricity objective.</p>
<p><b>Question 4</b> Is there support for the Commission's proposal that the deletion of clause 6.1.4 of the NER be explored?</p>	<p>Ausgrid is committed to provide our customers with a strong and favourable customer experience.</p> <p>Within the current tariffs, Ausgrid is unable to recover the network costs of supporting a customer with an embedded solar system from that customer due to the difficulty in assigning an appropriate tariff which adequately differentiates between a solar and a non-solar customer based on technology neutral criteria.</p> <p>Ausgrid would support further exploration into the deletion of clause 6.1.4. Under the DNSP Revenue Cap framework, the recovery of costs that may follow from the deletion of clause 6.1.4 would contribute to reducing the cross-subsidisation present in existing network tariffs.</p> <p>In order to obtain broad community support for such a move, Ausgrid suggests that it be accompanied by network incentives (or waivers) which reward customers for installing (or having installed) DER in an area which defers network investment.</p>
<p><b>Question 5</b> Are there any other aspects of the development of Australian standards that are relevant and should be considered?</p>	<p>Ausgrid supports the further development of Australian Standards in line with current frameworks</p>
<p><b>Question 6</b> Do stakeholders see value in the AEMC (or other party) reviewing the technical requirements that DNSPs apply to the connection of distributed energy resources?</p>	<p>Reducing transaction costs for both consumers and connecting DNSPs is a strong priority for Ausgrid.</p> <p>The organisation is supportive of a move towards greater commonality of processes between various DNSPs. There are a range of different jurisdictional and state based regulations which may inhibit a common national approach to connection applications (Ausgrid acknowledges and supports the creation of a National Energy Storage register as proposed by COAG).</p> <p>Ausgrid would be supportive of a move to implement greater standardisation being led by an industry body such as the Energy Networks Australia.</p>